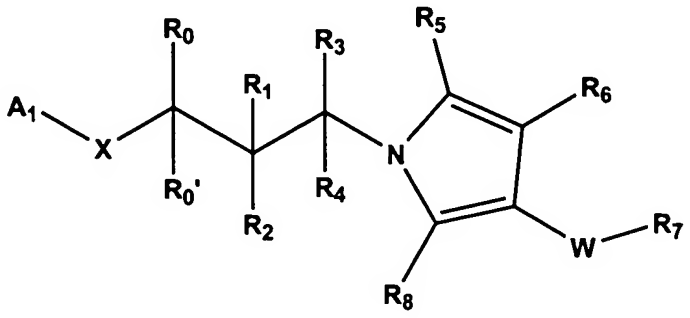
AMENDMENTS TO THE CLAIMS

1. (Currently amended) A compound having the structure:



(I)

wherein:

X is nitrogen, oxygen, or optionally substituted carbon;

W is absent or is selected from the group consisting of –O-, -S-, -S(O)-, -SO_2-, -NH-, -NH-CO-, -NR'CO-, -$NHSO_2$-, -NR'SO_2-, -CO-, -CO_2-, -CH_2-, -CF_2-, -CHF-, -CONH-, -CONR'-, and –NR'-, where R' is alkyl, substituted alkyl, cycloalkyl, aryl, heteroaryl, heterocyclo;

A_1 is optionally substituted aryl or heteroaryl;

R_0 and R_0' are independently selected from the group consisting of hydrogen and methyl;

R_1, R_2, R_3, and R_4 are independently selected from the group consisting of hydrogen, ~~hydroxyl,~~ and optionally substituted loweralkyl, cycloloweralkyl, cyclicaminoalkyl, alkyl-aminoalkyl, loweralkoxy, amino, alkylamino, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, aryl and heteroaryl;

R_5 and R_8 are independently selected from the group consisting of hydrogen, halo, and optionally substituted loweralkyl, cycloalkyl, alkoxy, amino, aminoalkoxy, carbonyloxy, aminocarbonyloxy, alkylcarbonylamino, arylcarbonylamino, aralkylcarbonylamino, heteroarylcarbonylamino, heteroaralkylcarbonylamino, cycloimido, heterocycloimido, amidino, cycloamidino, heterocycloamidino, guanidinyl, aryl, biaryl, heteroaryl, heteroarylaryl, heteroarylheteroaryl, heterocycloalkyl, heterocyclocarbonyloxy, heteroarylcarbonyloxy, and arylsulfonamido;

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R_6 is selected from the group consisting of hydrogen, and optionally substituted aryl, heteroaryl, and heterocylo;

R_7 is selected from the group consisting of ~~hydrogen,~~ hydroxy, halo, carboxyl, nitro, amino, amido, amidino, imido, cyano, sulfonyl, methanesulfonyl, and substituted or unsubstituted alkyl, alkoxy, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, alkylcarbonyloxy, arylcarbonyloxy, aralkylcarbonyloxy, heteroarylcarbonyloxy, heteroaralkylcarbonyloxy, alkylaminocarbonyloxy, arylamino-carbonyloxy, formyl, loweralkylcarbonyl, loweralkoxycarbonyl, aminocarbonyl, aminoaryl, alkylsulfonyl, sulfonamido, aminoalkoxy, alkylamino, heteroarylamino, alkylcarbonylamino, alkylaminocarbonylamino, arylaminocarbonylamino, aralkylcarbonylamino, heteroaryl-carbonylamino, arylcarbonylamino, heteroarylcarbonylamino cycloamido, cyclothioamido, cycloamidino, heterocycloamidino, cycloalkyl, cycloimido, heterocycloimido, guanidinyl, aryl, heteroaryl, heterocyclo, heterocycloalkyl, arylsulfonyl and arylsulfonamido;

the tautomers thereof;

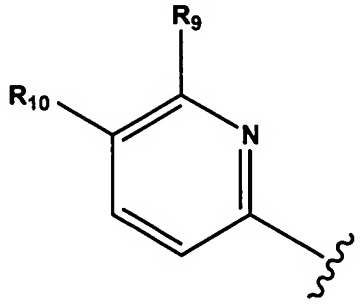
or a pharmaceutically acceptable salt thereof.

2. (Original) A compound of claim 1 wherein X is nitrogen.

3. (Original) A compound of claim 1 wherein R_1, R_2, and R_3 are hydrogen and R_4 is selected from the group consisting of hydrogen, methyl, ethyl, aminoethyl, dimethylaminoethyl, pyridylethyl, piperidinyl, pyrrolidinylethyl, piperazinylethyl and morpholinylethyl.

4. (Original) A compound of claim 1 wherein R_1, R_2, R_3, and R_4, are hydrogen.

5. (Original) A compound of claim 1 wherein A_1 has the formula:



(IV)

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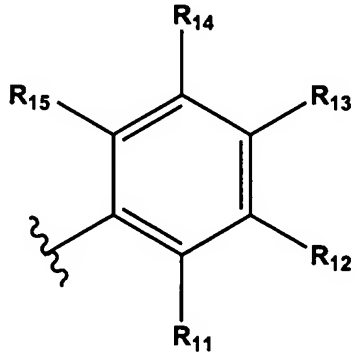
wherein R_9 and R_{10} are independently selected from the group consisting of hydrogen, hydroxy, nitro, amino, cyano, halo, thioamido, amidino, oxamidino, alkoxyamidino, imidino, guanidinyl, sulfonamido, carboxyl, formyl, loweralkyl, aminoloweralkyl, loweralkylamino-loweralkyl, haloloweralkyl, loweralkoxy, haloloweralkoxy, loweralkoxyalkyl, loweralkylamino-loweralkoxy, loweralkylcarbonyl, loweraralkylcarbonyl, lowerheteroaralkylcarbonyl, alkylthio, aryl and, aralkyl.

6. (Currently amended) A compound of claim 1 wherein at least one of R_5 and R_8 is a substituted or unsubstituted moiety of the formula:



(V)

wherein R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are independently selected from the group consisting of hydrogen, nitro, amino, cyano, halo, thioamido, carboxyl, hydroxy, and optionally substituted loweralkyl, loweralkoxy, loweralkoxyalkyl, haloloweralkyl, haloloweralkoxy, aminoalkyl, alkylamino, aminoalkylalkynyl, alkylaminoalkylalkynyl, alkylthio, alkylcarbonylamino, aralkylcarbonylamino, heteroaralkylcarbonylamino, arylcarbonylamino, ~~heteroaryl-carbonylamino~~ heteroarylcarbonylamino, aminocarbonyl, loweralkylaminocarbonyl, aminoaralkyl, loweralkylaminoalkyl, aryl, heteroaryl, cycloheteroalkyl, aralkyl, alkylcarbonyloxy, arylcarbonyloxy, aralkylcarbonyloxy, arylcarbonyloxyalkyl, alkylcarbonyloxyalkyl, heteroarylcarbonyloxyalkyl, aralkycarbonyloxyalkyl, and heteroaralkcarbonyloxyalkyl.

7. (Original) A compound of claim 6 wherein R_{11}, R_{12}, R_{14} and R_{15} are hydrogen and R_{13} is selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, haloloweralkyl, aminocarbonyl, alkylaminocarbonyl and cyano.

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8. (Original) A compound of claim 6 wherein R_{11}, R_{13}, and R_{15} are hydrogen and R_{12} and R_{14} are independently selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, halologweralkyl and cyano.

9. (Original) A compound of claim 6 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is heteroaryl.

10. (Original) A compound of claim 6 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is a heterocycloalkyl.

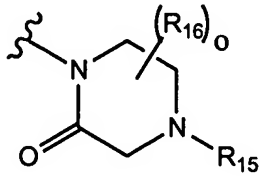
11. (Original) A compound of claim 6 wherein at least one of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are halo and the remainder of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are hydrogen.

12. (Original) A compound of claim 1 wherein at least one of R_5 and R_8 is selected from the group consisting of dichlorophenyl, difluorophenyl, trifluoromethylphenyl, chlorofluorophenyl, bromochlorophenyl, ethylphenyl, methylchlorophenyl, imidazolylphenyl, cyanophenyl, morphlinophenyl and cyanochlorophenyl.

13. (Original) A compound of claim 1 wherein R_6 is substituted or unsubstituted aryl or heteroaryl.

14. (Original) A compound of claim 1 wherein R_6 is substituted or unsubstituted pyridyl, pyrimidinyl, piperazinyl, thiazolyl, indolyl, imidazolyl, oxadiazolyl, tetrazolyl, pyrazinyl, triazolyl, thienyl, furanyl, quinolinyl, pyrrolyopyridyl, benzothiazolyl, benzopyridyl, benzotriazolyl, and benzimidazolyl.

15. (Original) A compound of claim 1 wherein R_6 is a monoketopiperazinyl group having the structure:



wherein R_{15} and R_{16} are independently selected from the group consisting of hydrogen, loweralkyl, loweralkynyl, aryl, heteroaryl, arylloweralkyl, loweralkylarylloweralkyl, halologweralkyl, haloarylloweralkyl carbocyclic and heterocyclic; or R_8 can be taken with another

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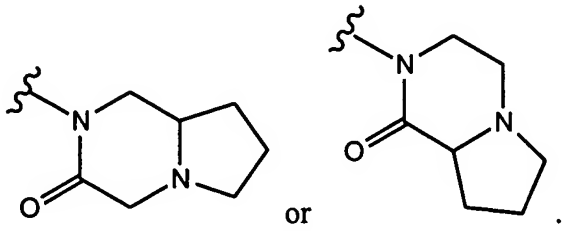
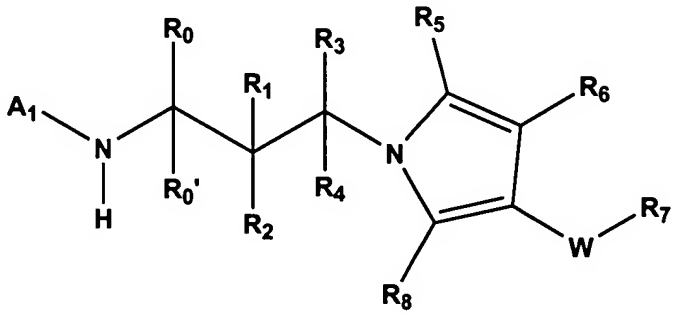
R_{16} or with R_{15} to form a carbocyclic, heterocyclic or aryl ring; and o is an integer between 1 and 6.

16. (Original) A compound of claim 15 wherein R_{15} is loweralkyl, such as methyl, ethyl, n-propyl, isopropyl, cyclopropyl, n-butyl, iso-butyl or t-butyl, or R_{15} is taken with R_{16} to form a group having the structure:



17. (Original) A compound in claim 1 wherein R_5 and R_8 are independently hydrogen or lower alkyl.

18. (Currently amended) A compound having the structure:



(II)

wherein:

W is absent or is selected from the group consisting of –O-, -S-, -S(O)-, -SO_2-, -NH-, -NH-CO-, -NR'CO-, -$NHSO_2$-, -NR'SO_2-, -CO-, -CO_2-, -CH_2-, -CF_2-, -CHF, -CONH-, -CONR'-, and –NR'-, where R' is alkyl, substituted alkyl, cycloalkyl, aryl, heteroaryl, heterocyclo;

A_1 is optionally substituted aryl, heteroaryl, or a protecting group;

R_0 and R_0' are independently selected from the group consisting of hydrogen and methyl;

R_1, R_2, R_3, and R_4 are independently selected from the group consisting of hydrogen, ~~hydroxyl,~~ and optionally substituted loweralkyl, cycloloweralkyl, cyclicaminoalkyl, alkyl-

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aminoalkyl, loweralkoxy, amino, alkylamino, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, aryl and heteroaryl;

R_5 and R_8 are independently selected from the group consisting of hydrogen, halo, and optionally substituted loweralkyl, cycloalkyl, alkoxy, amino, aminoalkoxy, carbonyloxy, aminocarbonyloxy, alkylcarbonylamino, arylcarbonylamino, aralkylcarbonylamino, heteroarylcarbonylamino, heteroaralkylcarbonylamino, cycloimido, heterocycloimido, amidino, cycloamidino, heterocycloamidino, guanidinyl, aryl, biaryl, heteroaryl, heteroarylaryl, heteroarylheteroaryl, heterocycloalkyl, heterocyclocarbonyloxy, heteroarylcarbonyloxy, and arylsulfonamido;

R_6 is selected from the group consisting of hydrogen, and optionally substituted aryl, heteroaryl, and heterocylo;

R_7 is selected from the group consisting of ~~hydrogen,~~ hydroxy, halo, carboxyl, nitro, amino, amido, amidino, imido, cyano, sulfonyl, methanesulfonyl, and substituted or unsubstituted alkyl, alkoxy, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, alkylcarbonyloxy, arylcarbonyloxy, aralkylcarbonyloxy, heteroarylcarbonyloxy, heteroaralkylcarbonyloxy, alkylaminocarbonyloxy, arylaminocarbonyloxy, formyl, loweralkylcarbonyl, loweralkoxycarbonyl, aminocarbonyl, aminoaryl, alkylsulfonyl, sulfonamido, aminoalkoxy, alkylamino, heteroarylamino, alkylcarbonylamino, alkylaminocarbonylamino, arylaminocarbonylamino, aralkylcarbonylamino, heteroarylcarbonylamino, arylcarbonylamino, heteroarylcarbonylamino cycloamido, cyclothioamido, cycloamidino, heterocycloamidino, cycloalkyl, cycloimido, heterocycloimido, guanidinyl, aryl, heteroaryl, heterocyclo, heterocycloalkyl, arylsulfonyl and arylsulfonamido;

the tautomers thereof;

or a pharmaceutically acceptable salt thereof.

19. (Original) A compound of claim 18 wherein R_1, R_2, and R_3 are hydrogen and R_4 is selected from the group consisting of hydrogen, methyl, ethyl, aminoethyl, dimethylaminoethyl, pyridylethyl, piperidinyl, pyrrolidinylethyl, piperazinylethyl and morpholinylethyl.

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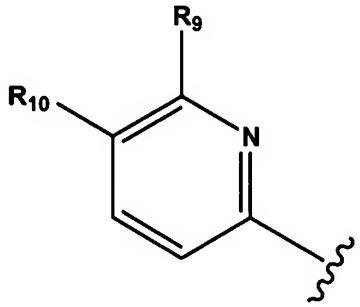
20. (Original) A compound of claim 18 wherein R_1, R_2, R_3, and R_4, are hydrogen.

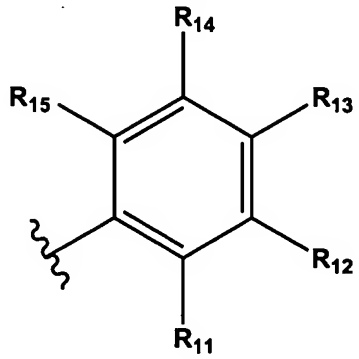
21. (Original) A compound of claim 18 wherein A_1 has the formula:



(IV)

wherein R_9 and R_{10} are independently selected from the group consisting of hydrogen, hydroxy, nitro, amino, cyano, halo, thioamido, amidino, oxamidino, alkoxyamidino, imidino, guanidinyl, sulfonamido, carboxyl, formyl, loweralkyl, aminoloweralkyl, loweralkyl-aminoloweralkyl, haloloweralkyl, loweralkoxy, haloloweralkoxy, loweralkoxyalkyl, loweralkylaminoloweralkoxy, loweralkylcarbonyl, loweraralkylcarbonyl, lowerheteroaralkyl-carbonyl, alkylthio, aryl and, aralkyl.

22. (Currently amended) A compound of claim 18 wherein at least one of R_5 and R_8 is a substituted or unsubstituted moiety of the formula:



(V)

wherein R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are independently selected from the group consisting of hydrogen, nitro, amino, cyano, halo, thioamido, carboxyl, hydroxy, and optionally substituted loweralkyl, loweralkoxy, loweralkoxyalkyl, haloloweralkyl, haloloweralkoxy, aminoalkyl, alkylamino, aminoalkylalkynyl, alkylaminoalkylalkynyl, alkylthio, alkylcarbonylamino, aralkyl-carbonylamino, heteroaralkylcarbonylamino, arylcarbonylamino, ~~heteroarylcarbonylamino~~

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heteroarylcarbonylamino, aminocarbonyl, loweralkylaminocarbonyl, aminoaralkyl, loweralkyl-aminoalkyl, aryl, heteroaryl, cycloheteroalkyl, aralkyl, alkylcarbonyloxy, arylcarbonyloxy, aralkylcarbonyloxy, arylcarbonyloxyalkyl, alkylcarbonyloxyalkyl, heteroarylcarbonyloxyalkyl, aralkycarbonyloxyalkyl, and heteroaralkcarbonyloxyalkyl.

23. (Original) A compound of claim 22 wherein R_{11}, R_{12}, R_{14} and R_{15} are hydrogen and R_{13} is selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, haloloweralkyl, aminocarbonyl, alkylaminocarbonyl and cyano.

24. (Original) A compound of claim 22 wherein R_{11}, R_{13}, and R_{15} are hydrogen and R_{12} and R_{14} are independently selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, haloloweralkyl and cyano.

25. (Original) A compound of claim 22 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is heteroaryl.

26. (Original) A compound of claim 22 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is a heterocycloalkyl.

27. (Original) A compound of claim 22 wherein at least one of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are halo and the remainder of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are hydrogen.

28. (Original) A compound of claim 18 wherein at least one of R_5 and R_8 is selected from the group consisting of dichlorophenyl, difluorophenyl, trifluoromethylphenyl, chlorofluorophenyl, bromochlorophenyl, ethylphenyl, methylchlorophenyl, imidazolylphenyl, cyanophenyl, morphlinophenyl and cyanochlorophenyl.

29. (Original) A compound of claim 18 wherein R_6 is substituted or unsubstituted aryl or heteroaryl.

30. (Original) A compound of claim 18 wherein R_6 is substituted or unsubstituted pyridyl, pyrimidinyl, piperazinyl, thiazolyl, indolyl, imidazolyl, oxadiazolyl, tetrazolyl, pyrazinyl, triazolyl, thienyl, furanyl, quinolinyl, pyrrolyopyridyl, benzothiazolyl, benzopyridyl, benzotriazolyl, and benzimidazolyl.

31. (Original) A compound of claim 18 wherein R_6 is a monoketopiperazinyl group having the structure:

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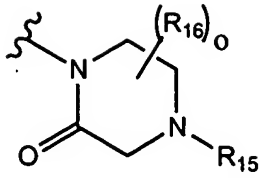
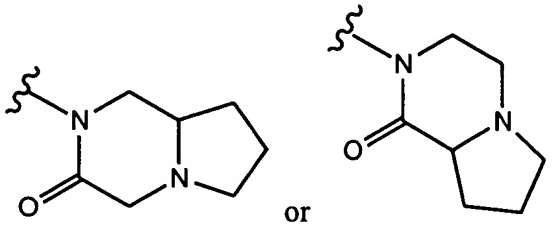


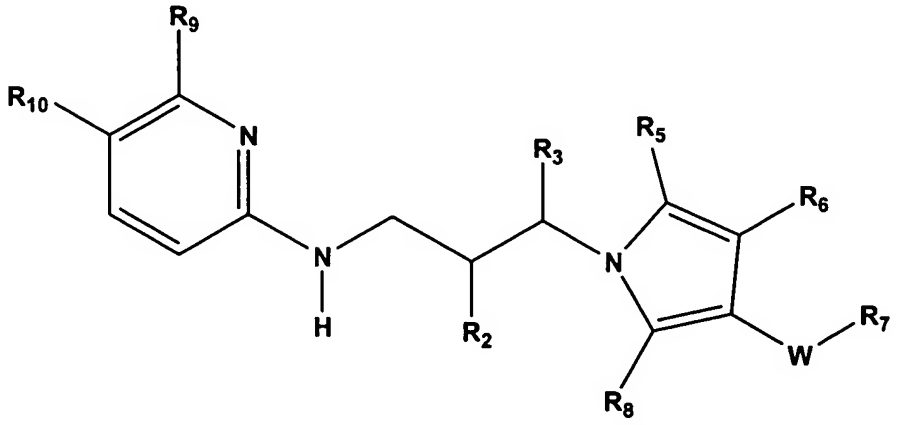
wherein R_{15} and R_{16} are independently selected from the group consisting of hydrogen, loweralkyl, loweralkynyl, aryl, heteroaryl, arylloweralkyl, loweralkylarylloweralkyl, haloloweralkyl, haloarylloweralkyl carbocyclic and heterocyclic; or R_8 can be taken with another R_{16} or with R_{15} to form a carbocyclic, heterocyclic or aryl ring; and o is an integer between 1 and 6.

32. (Original) A compound of claim 31 wherein R_{15} is loweralkyl, or R_{15} is taken with R_{16} to form a group having the structure:



33. (Original) A compound in claim 18 wherein R_5 and R_8 are independently hydrogen or lower alkyl.

34. (Original) A compound having the structure:



(III)

wherein W is absent or is selected from the group consisting of –O-, -S-, -S(O)-, -SO_2-, -NH-, -NH-CO-, -NR'CO-, -$NHSO_2$-, -NR'SO_2-, -CO-, -CO_2-, -CH_2-, -CF_2-, CHF, -CONH-,

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-CONR'-, and –NR'-, where R' is alkyl, substituted alkyl, cycloalkyl, aryl, heteroaryl, heterocyclo;

R_2 and R_3 are independently selected from the group consisting of hydrogen, hydroxyl, and optionally substituted loweralkyl, cyclooweralkyl, cyclicaminoalkyl, alkylaminoalkyl, loweralkoxy, amino, alkylamino, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, aryl and heteroaryl;

R_5 and R_8 are independently selected from the group consisting of hydrogen, halo, and optionally substituted loweralkyl, cycloalkyl, alkoxy, amino, aminoalkoxy, carbonyloxy, aminocarbonyloxy, alkylcarbonylamino, arylcarbonylamino, aralkylcarbonylamino, heteroarylcarbonylamino, heteroaralkylcarbonylamino, cycloimido, heterocycloimido, amidino, cycloamidino, heterocycloamidino, guanidinyl, aryl, biaryl, heteroaryl, heteroarylaryl, heteroarylheteroaryl, heterocycloalkyl, heterocyclocarbonyloxy, heteroarylcarbonyloxy, and arylsulfonamido;

R_6 is selected from the group consisting of hydrogen, and optionally substituted aryl, heteroaryl, and heterocylo;

R_7 is selected from the group consisting of hydrogen, hydroxy, halo, carboxyl, nitro, amino, amido, amidino, imido, cyano, sulfonyl, methanesulfonyl, and substituted or unsubstituted alkyl, alkoxy, alkylcarbonyl, arylcarbonyl, aralkylcarbonyl, heteroarylcarbonyl, heteroaralkylcarbonyl, alkylcarbonyloxy, arylcarbonyloxy, aralkylcarbonyloxy, heteroarylcarbonyloxy, heteroaralkylcarbonyloxy, alkylaminocarbonyloxy, arylaminocarbonyloxy, formyl, loweralkylcarbonyl, loweralkoxycarbonyl, aminocarbonyl, aminoaryl, alkylsulfonyl, sulfonamido, aminoalkoxy, alkylamino, heteroarylamino, alkylcarbonylamino, alkylaminocarbonylamino, arylaminocarbonylamino, aralkylcarbonylamino, heteroarylcarbonylamino, arylcarbonylamino, heteroarylcarbonylamino cycloamido, cyclothioamido, cycloamidino, heterocycloamidino, cycloalkyl, cycloimido, heterocycloimido, guanidinyl, aryl, heteroaryl, heterocyclo, heterocycloalkyl, arylsulfonyl and arylsulfonamido;

R_9 and R_{10} are independently selected from the group consisting of hydrogen, hydroxy, nitro, amino, cyano, halo, thioamido, amidino, oxamidino, alkoxyamidino, imidino, guanidinyl,

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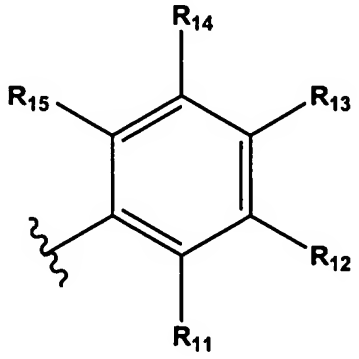
sulfonamido, carboxyl, formyl, loweralkyl, aminoloweralkyl, loweralkylaminoloweralkyl, haloloweralkyl, loweralkoxy, haloloweralkoxy, loweralkoxyalkyl, loweralkylaminoloweralkoxy, loweralkylcarbonyl, loweraralkylcarbonyl, lowerheteroaralkylcarbonyl, alkylthio, aryl and, aralkyl. Most preferably, A is selected from the group consisting of aminopyridyl, nitropyridyl, aminonitropyridyl, cyanopyridyl, cyanothiazolyl, aminocyanopyridyl, trifluoromethylpyridyl, methoxypyridyl, methoxynitropyridyl, methoxycyanopyridyl and nitrothiazolyl; the tautomers thereof; or a pharmaceutically acceptable salt thereof.

35. (Original) A compound of claim 34 wherein R_1, R_2, and R_3 are hydrogen and R_4 is selected from the group consisting of hydrogen, methyl, ethyl, aminoethyl, dimethylaminoethyl, pyridylethyl, piperidinyl, pyrrolidinylethyl, piperazinylethyl and morpholinylethyl.

36. (Original) A compound of claim 34 wherein R_1, R_2, R_3, and R_4, are hydrogen.

37. (Currently amended) A compound of claim 34 wherein at least one of R_5 and R_7 is a substituted or unsubstituted moiety of the formula:



(V)

wherein R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are independently selected from the group consisting of hydrogen, nitro, amino, cyano, halo, thioamido, carboxyl, hydroxy, and optionally substituted loweralkyl, loweralkoxy, loweralkoxyalkyl, haloloweralkyl, haloloweralkoxy, aminoalkyl, alkylamino, aminoalkylalkynyl, alkylaminoalkylalkynyl, alkylthio, alkylcarbonylamino, aralkylcarbonylamino, heteroaralkylcarbonylamino, arylcarbonylamino, ~~heteroarylcarbonyl-amino~~ heteroarylcarbonylamino, aminocarbonyl, loweralkylaminocarbonyl, aminoaralkyl, loweralkylaminoalkyl, aryl, heteroaryl, cycloheteroalkyl, aralkyl, alkylcarbonyloxy, aryl-

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carbonyloxy, aralkylcarbonyloxy, arylcarbonyloxyalkyl, alkylcarbonyloxyalkyl, heteroaryl-carbonyloxyalkyl, aralkycarbonyloxyalkyl, and heteroaralkcarbonyloxyalkyl.

38. (Original) A compound of claim 37 wherein R_{11}, R_{12}, R_{14} and R_{15} are hydrogen and R_{13} is selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, haloloweralkyl, aminocarbonyl, alkylaminocarbonyl and cyano.

39. (Original) A compound of claim 37 wherein R_{11}, R_{13}, and R_{15} are hydrogen and R_{12} and R_{14} are independently selected from the group consisting of halo, loweralkyl, hydroxy, loweralkoxy, haloloweralkyl and cyano.

40. (Original) A compound of claim 37 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is heteroaryl.

41. (Original) A compound of claim 37 wherein R_{11}, R_{12}, R_{14}, and R_{15} are hydrogen and R_{13} is a heterocycloalkyl.

42. (Original) A compound of claim 37 wherein at least one of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are halo and the remainder of R_{11}, R_{12}, R_{13}, R_{14}, and R_{15} are hydrogen.

43. (Original) A compound of claim 34 wherein at least one of R_5 and R_8 is selected from the group consisting of dichlorophenyl, difluorophenyl, trifluoromethylphenyl, chlorofluorophenyl, bromochlorophenyl, ethylphenyl, methylchlorophenyl, imidazolylphenyl, cyanophenyl, morphlinophenyl and cyanochlorophenyl.

44. (Original) A compound of claim 34 wherein R_6 is substituted or unsubstituted aryl or heteroaryl.

45. (Original) compound of claim 34 wherein R_6 is substituted or unsubstituted pyridyl, pyrimidinyl, piperazinyl, thiazolyl, indolyl, imidazolyl, oxadiazolyl, tetrazolyl, pyrazinyl, triazolyl, thienyl, furanyl, quinolinyl, pyrrolyopyridyl, benzothiazolyl, benzopyridyl, benzotriazolyl, and benzimidazolyl.

46. (Original) A compound of claim 34 wherein R_6 is a monoketopiperazinyl group having the structure:

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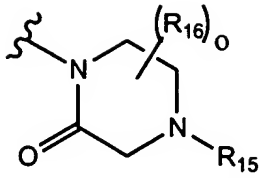
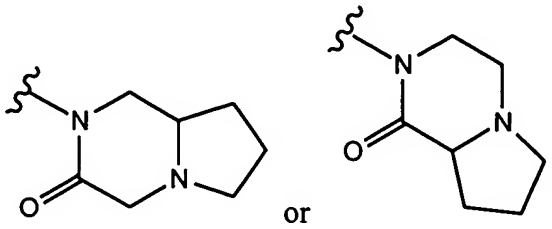


wherein R_{15} and R_{16} are independently selected from the group consisting of hydrogen, loweralkyl, loweralkynyl, aryl, heteroaryl, arylloweralkyl, loweralkylarylloweralkyl, haloloweralkyl, haloarylloweralkyl carbocyclic and heterocyclic; or R_8 can be taken with another R_{16} or with R_{15} to form a carbocyclic, heterocyclic or aryl ring; and o is an integer between 1 and 6.

47. (Original) A compound of claim 46 wherein R_{15} is loweralkyl, or R_{15} is taken with R_{16} to form a group having the structure:



or

.

48. (Original) A compound in claim 34 wherein R_5 and R_8 are independently hydrogen or lower alkyl.

49. (Original) A composition comprising an amount of a compound of claim 1 effective to inhibit GSK3 activity in a human or animal subject when administered thereto, together with a pharmaceutically acceptable carrier.

50. (Original) A composition comprising an amount of a compound of claim 18 effective to inhibit GSK3 activity in a human or animal subject when administered thereto, together with a pharmaceutically acceptable carrier.

51. (Original) A composition comprising an amount of a compound of claim 34 effective to inhibit GSK3 activity in a human or animal subject when administered thereto, together with a pharmaceutically acceptable carrier.

52. (Withdrawn) A method of inhibiting GSK3 activity in a human or animal subject, comprising administering to the human or animal subject a composition of claim 49.

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53. (Withdrawn) A method of inhibiting GSK3 activity in a human or animal subject, comprising administering to the human or animal subject a composition of claim 50.

54. (Withdrawn) A method of inhibiting GSK3 activity in a human or animal subject, comprising administering to the human or animal subject a composition of claim 51.

55. (Withdrawn) A method of treating a cell comprising administering to the cell an amount of a compound of claim 1 effective to inhibit GSK3 activity in the cell.

56. (Withdrawn) A method of treating a cell comprising administering to the cell an amount of a compound of claim 18 effective to inhibit GSK3 activity in the cell.

57. (Withdrawn) A method of treating a cell comprising administering to the cell an amount of a compound of claim 34 effective to inhibit GSK3 activity in the cell.

58. (Withdrawn) A method for treating a GSK3-mediated disorder in a human or animal subject, comprising administering to the human or animal subject an amount of a compound of claim 1 effective to inhibit GSK3 activity in the subject.

59. (Withdrawn) A method of claim 58, wherein the composition is administered by a mode of administration selected from the group consisting of oral, subcutaneous, transdermal, transmucosal, iontophoretic, intravenous, intrathecal, buccal, sublingual, intranasal, and rectal administration.

60. (Withdrawn) A method of claim 58, wherein said GSK3-mediated disorder is selected from the group consisting of diabetes, Alzheimer's disease, obesity, atherosclerotic cardiovascular disease, essential hypertension, polycystic ovary syndrome, syndrome X, ischemia, traumatic brain injury, bipolar disorder, immunodeficiency and cancer.

61. (Withdrawn) A method of claim 58, which further comprises administering to the subject one or more additional active agents.

62. (Withdrawn) A method of claim 58, wherein the GSK3-mediated disorder is diabetes and the additional active agent is selected from the group consisting of insulin, troglitazone, rosiglitazone, pioglitazone, glipizide and metformin.

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63. (Withdrawn) A method for treating a human or animal subject, comprising administering to the human or animal subject an amount of a compound of claim 1 effective to inhibit tau phosphorylation in the subject.

64. (Withdrawn) The method of claim 63 wherein the compound is 1-{3-[(6-amino-5-nitropyridin-2-yl)amino]propyl}-4-(2,4-dichlorophenyl)-N-[(1S)-2-hydroxy-1-methylethyl]-1H-pyrrole-3-carboxamide.

65-69. (Cancelled)

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